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ABSTRACT

Numerous studies have analyzed the determinants of early retirement or retirement on time among older men and women. However, not many studies of the determinants of retirement have analyzed racial and gender differences, both between and within groups. Using data from the 1968-1987 interview waves of the Panel Studies of Income Dynamics, this study analyzed the racial and gender differences in timing, and factors associated with the retirement of a sample of 528 older workers. The analysis of the timing of retirement indicated that women are more likely to be retired than men by ages 65-66, and that black males past age 60 have a lower retirement rate than white males. Multivariate analysis also indicated that a black male's retirement is associated with a wider variety of factors than a white male's retirement. A female worker's decision to retire appears to be influenced by a smaller number of variables than that of her male counterpart. Most important, however, is the finding that an older worker's retirement is largely influenced by his or her family's economic needs. This study differs from earlier studies of retirement in the following aspects. First, it utilized an event-history approach for a prospective analysis of determinants of retirement using longitudinal panel data. Second, in its multivariate analysis, this study simultaneously controlled for variables which represented characteristics of both individual workers and their families. (LLL)

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Racial and Gender Differences in Timing and Factors Associated with Retirement

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Abstract

Utilizing data from the 1968-1987 interview waves of the Panel Studies of Income Dynamics, this paper analyzes the racial and gender differences in timing and factors associated with the retirement of a sample of 528 older workers. The analysis of the timing of retirement shows that women are more likely to be retired than men are by ages 65-66, and that black males past age 60 have a lower retirement rate than white males. Multivariate logit analysis also indicates that a black male's retirement is associated with a wider variety of factors than a white male's retirement. A female worker's decision to retire appears to be influenced by a smaller number of variables than that of her male counterpart. The most important of all, however, is the finding that an older worker's retirement is largely influenced by his/her family's economic needs. It is recommend that future research focuses more on the family context of retirement.

Introduction

Numerous studies have analyzed the determinants of early retirement or retirement on time--often referring to retirement at age 65--among older men and women. Specifically, the effects of occupational characteristics, of health status, and of social security and pension benefits as factors pushing or pulling people to retire have been variously dealt with, although the findings have not been conclusive (Anderson, Burkhauser, & Quinn, 1986; Boaz, 1988; Chirikos & Nestel, 1989; Deviney & O'Rand, 1988; Hall & Johnson, 1980; Hardy, 1982, 1984, 1985; Hayward, 1986; Hayward & Hardy, 1985; Muller & Boaz, 1988; Quinn, 1978; Quinn & Burkhauser, 1983).

Surprisingly, however, not many studies of the determinants of retirement have analyzed racial and gender differences, both between and within. In fact, many of the studies that used longitudinal or cross-sectional data sets to analyze the determinants of retirement limited their samples to white men. The small number of studies that dealt with black-white comparisons were also limited to men (Bould, 1980, 1986; Chirikos & Nestel, 1989; Fillenbaum, George, & Palmore, 1985). There may be some similarities in the determinants of retirement of white and black men and women, but the well-documented racial and gender differences in work histories, occupational characteristics, economic resources, and health status (Abbott, 1980; Jackson & Gibson, 1985) are most likely to affect their retirement process and working life expectancy.

Another important problem with many previous studies that used longitudinal panel data, such as the Retirement History Study (RHS) and the National Longitudinal Survey of Older Men (NLS), is that they did not overcome the biases resulting, most notably, from censored cases, or drop-outs (sample members who drop out of the panel before it ends due to refusal to respond or to death). The studies often ignored such attrition by including only those who remained in the survey throughout the study period, this weakened the generalizability of their

findings.

In this context, this paper attempts to discover possible racial and gender differences, both within and between, in timing and factors associated with retirement and to do so by overcoming the weaknesses of longitudinal data with an event history approach. Specifically, this paper addresses the following research questions: (1) Is there any racial (black and white) and gender difference in the timing of retirement? (2) What are the factors associated with black retirement vis-a-vis white retirement and retirement among men vis-a-vis retirement among women? (3) If there are racial-gender differences in timing and factors associated with retirement, how can we explain them?

Previous Studies and Theoretical Framework

According to Social Security Administration (SSA) statistics, an average worker retires at age 63, and more than two thirds of all those eligible for social security benefits claim them before age 65 (Social Security Administration, 1990). The rate of participation in the labor force, especially of older men in the United States has indeed been declining continuously over the past several decades. The declining working life expectancy and increasing postretirement life expectancy thus prompted a plethora of studies of determinants of retirement, as summarized below.

The process of retirement is obviously a complicated one, influenced by the combined effects of retirement income policies, occupational characteristics, health status, attitudes toward work, family needs, and larger structural factors such as the economy, the labor market, and age discrimination. Partly because of this complexity, considerable disagreement exists not only about the main effects of these factors but about the effects of their interaction. For one thing, although it is widely acknowledged that the availability of social security benefits at age 62 and

a compulsory retirement age augmented by pension provisions have thus far allowed many workers to retire before age 65, the current and future effects of social security and pension policy changes on the retirement behavior of older workers are not agreed upon (Anderson, Burkhauser, & Quinn, 1986; Gohmann & Clark, 1989; Hall & Johnson, 1980; Hardy, 1982; Lairson, Lorimor, & Slater, 1984; Lupu, 1984; Quinn & Burkhauser, 1983). Second, the effects of health status has also been generally accepted as a leading reason why older men withdraw from the labor force. But the questionable validity of such a self-reported reason for retirement coupled with the problems with the often ex post facto measurement of health (i.e., reporting poor health as a reason in an interview after retirement or using the current health status as a proxy for the health status at the time of retirement) have raised some suspicion that health is indeed a leading reason for retirement (Muller & Boaz, 1988). More recent articles, in fact, report that the effect of health and disability status on retirement is more likely to be interrelated with occupational characteristics and retirement income eligibility, although the degree and the nature of such interaction is again not agreed upon (Chirikos & Nestel, 1989; Hardy, 1985; Hayward, 1986; Quinn, 1978). Besides these unequivocal findings, however, most of these studies were either limited to white men or race-blind. In the latter case, the white tend to dominate anyway, and consequently the findings are not applicable to blacks.

Although the black-white comparisons and the analysis of the determinants of retirement within the black elderly population occupy a very limited place in the voluminous studies relating to retirement, they clearly convey the message that there are more racial differences than similarities when it comes to the circumstances of and factors associated with retirement. A study by Fillenbaum, George, and Palmore (1985) based on the RHS and the NLS found an obvious difference between white and black men in the predictors of retirement. The findings show that fewer categories--inclusive of demographic, socioeconomic, health, job characteristics,

and attitude--were significant for blacks than for whites, because blacks, with their lower occupational status, have fewer options except "those basic characteristics related to keeping a job" (p. 85). But again, the specific points of difference varied between the two data sets. Bould's study (1980), which analyzed the effect of the length of previous unemployment on early retirement, found that both white and black men are strongly affected by unemployment even when social security and pension eligibility, assets, health limitations, family responsibilities, occupation, changes in the unemployment rate and urban residence are controlled for. Bould's later study (1986), which analyzed factors influencing the choice of social security early retirement benefits for whites and blacks, confirmed the significance of unemployment for both groups. In addition, however, the study also showed that the other predictors of early retirement for whites--pension eligibility, college education, family responsibilities, and health limitations--were not significant for blacks. (The author indicated that the lack of significance for health limitations and pension eligibility for blacks could be attributed to the small sample size.)

With the discontinuous work patterns and concentration in jobs providing little protection after retirement of both black men and black women, they obviously perceive retirement differently, are influenced by different factors, and have different social psychological characteristics than their white counterparts (Gibson, 1987; Jackson & Gibson, 1985). Gibson (1987) argues that the lifelong work (and therefore economic) disadvantages of blacks may even blur the line between work and retirement, especially for those black elderlies who are the most deprived of all.

The lack of attention to the timing and factors associated with women's retirement is even more striking, considering the steady increase of women's participation in the labor force over the last few decades. It is possible that women's participation in and withdrawal from the labor market have been regarded as deserving something short of a serious analysis due to their

delayed career entry and often discontinuous work patterns. Moreover, it has been also suggested that the predominance of all-male samples in retirement research may be due to the problem of operationalizing occupational retirement for women, because women's patterns of labor force participation have been more varied than those of men (Hatch, 1987).

Also, although retirement is found to be a family decision in which both spouses are influenced by the other (Clark, Johnson, & McDermed, 1980; Henretta & O'Rand, 1983), women's retirement is more commonly seen, for understandable reasons, as an adjunct to their husbands' retirement than is the case with men's retirement. The slim postretirement protection measures provided by work that was often interrupted by child bearing and rearing as well as other family responsibilities indeed put women in a situation in which they should rely on their husbands' resources for postretirement life. But with more women in the labor force for longer periods of time, "retirement from work is becoming a central life cycle event in the lives of many American women" (Rogers, 1985, p. 170). Moreover, time spent with work should not be identified with work commitment or salience of the work role (Szinovacz, 1982, p. 18). Women's retirement thus has to be understood in its own right.

Based on nonmarried women samples of the RHS, Rogers (1985) found that the preretirement labor market characteristics of women have indeed been less favorable and that women have accumulated fewer financial resources than men. Nonetheless, they were little more likely than men to retire at the earliest possible age (for social security benefit receipt in this case) (Rogers, 1985). Based on the Current Population Surveys (CPS), Hayward, Grady, and McLaughlin (1988) confirmed that women in 1980 were increasingly more likely to experience their first retirement at a younger age than their counterparts in 1972, although in 1980, they were more likely to work after retirement. The authors also noted that these changes are fairly uniform across the occupational structure.

As for the timing and factors associated with women's retirement, O'Rand and Henretta (1982) found that early retirement (prior to age 65) among unmarried women (of the RHS) is influenced by life-course characteristics, such as having children and delayed career entry, and by late-life statuses such as pension coverage, health impairment, and, most of all, change in marital status--from being married to being unmarried or from being separated or divorced to being widowed. Based on a community sample of men and women nearing retirement age, Atchley (1982a) found that women were more reluctant to retire than men because of fewer financial resources, although women's attitudes towards work did not differ from men's. Especially for unmarried women and those with low-status occupations, the economic issues were found to be more important for their retirement decisions than for men's retirement decisions (Atchley, 1982a).

As for racial differences in factors associated with women's retirement, Belgrave's study (1988) found that poor health was significant for both white and black women, while low average income over the last five years of employment was significant only for blacks. Although the black women in the study worked longer and had higher pension coverage than the white women, work history and attitude as well as pension eligibility were unrelated to retirement for both races (Belgrave, 1988).

Overall, although previous studies of the timing of and factors associated with the retirement of racial minorities and women are very enlightening, they are of limited numbers and sometimes of a limited scope due to small sample sizes and the limited number of variables entered in multivariate analyses. Despite the increasing perception of retirement as an integral part of modern life and the increasingly positive attitudes toward the retirement transition, the retirement is a process which is heavily affected by the individual's attitudes towards retirement, retirement policies, expected post-retirement income, health status, and other conditions, or

situations, leading to retirement (Atchley, 1980, 1982b). Unanticipated changes in macroeconomic conditions such as high rates of unemployment or high rates of inflation can alter retirement decisions (Clark, 1988). Especially because of a prolonged period of retirement, however, retirement decision is made largely in conjunction with the older worker's current as well as expected future life situations. Thus, although retirement may be a significant life event or transition, it is not a transition which is isolated from one's other life experiences. With the exception of those who had to retire unwillingly at a mandatory retirement age (a small proportion of all retirees), most older workers make retirement decision based on the realistic appraisal of situational and structural factors associated with the current life situation and the post-retirement life. They have to appraise the effect of retirement on their income, physical as well as mental health, family responsibilities--financially and otherwise, and life satisfaction.

Previous studies cited have certainly shed some lights on the importance of health, economic resources, and occupational characteristics as determinants of retirement. Unfortunately, however, few empirical works have properly dealt with the variables indicative of family needs or responsibilities of older workers. Family responsibilities of both male and female older workers, especially if they are household heads, are likely to vary year after year, as children become more independent and/or spouses may become chronically ill. In addition, given the fact that retirement is a process affected by many other situational factors, the effects of temporal changes in the worker's own and family members' health status, work conditions (such as commuting mileage and hours of unemployment, if any), and work attitudes (which may change with aging) must be also considered more seriously. Lastly, all these variables are known to vary systematically by sex and social class (and race) (Atchley, 1982), so such systematic variance should be analyzed. Given the multitude of factors associated with the older worker's decision as to when and why to retire and the compounding effects of race and gender

on these factors, a more comprehensive analysis of the determinants of retirement of different racial groups of both sexes should be in order. By including variables indicative of economic resources, work history and attitude, health status, occupational characteristics, family needs, and temporal changes in many of these variables, the analysis in this paper will thus provide what the previous studies have not. A detailed description of variables is provided in the Methods section.

Data and Sample

The data for this study were obtained from the 1968-1987 interview waves of the Panel Studies of Income Dynamics (PSID) by the Survey Research Institute of the University of Michigan. The PSID provides longitudinal information on family composition changes, labor force participation, economic status, and health status of more than 6,000 families and, especially, of household heads. The sample selection criteria for this study were (1) the original PSID sample (for the generalization of findings); (2) individuals aged 58 or 59 at the first year of observation (T0)--1968 for cohort 1, 1970 for cohort 2, 1972 for cohort 3,; 1974 for cohort 4, 1976 for cohort 5, 1978 for cohort 6, and 1980 for cohort 7; (3) individuals with 10 or more years of total work history after age 18 (Because the PSID began collecting work history information in 1974, those who belong to the earlier cohorts and whose work history information is missing are not included); (4) Individuals who worked 1,500 or more hours at the first observation year (i.e., approximately 75% or more of work hours at T0); and (5) household heads (because the PSID collects detailed work and income information on them). The age-time-cohort structure of the sample is illustrated in Appendix 1. By selecting people who work at least 75% of the time in their late fifties, the analysis focuses on those who do not appear to possess conditions that might have led them to opt for premature retirement in their early or mid-fifties.

The sample members thus selected were followed up every year for seven years (T1 through T7) or until they exited the survey or no longer satisfied the sample selection criteria by relinquishing their household head status to someone else in the family. The total sample size was 528, consisting of 298 white males, 110 black males, 79 white females, and 41 black females. The PSID oversampled blacks by more than 3 to 1. Approximately 85% of both black and white sample members stayed throughout the study period from T1 through T7, while the other 15% dropped out in the middle, anytime between T1 and T7.

A very important difference exists between the samples of previous studies and the sample of the current study. Because our sample consists of household heads, who are more likely to bear heavier economic responsibility for family members than nonhousehold heads, our findings may not be generalizable to those who are not household heads. Nonetheless, another limit of the PSID lies in the fact that once a female household head gets married or cohabits with a male companion for more than a year, she is no longer a head because her husband or male companion is considered the new head of the household. Therefore, most of the female sample of this study represents only those who are single--never married, divorced, widowed, or separated (at least until they were no longer considered to satisfy the sample selection criteria)--or married but living apart from their husbands. Findings thus may not be generalizable to women who have been continuously married and living with husbands, although they may have been de facto heads of households.

The data in Table 1 describe the sample characteristics at T0 with regard to level of education, work history, type of occupation, overall economic status, and marital status. As expected, although blacks and whites show no significant differences in terms of work history, blacks are more likely to have worked in lower-level jobs, received lower wages, and had lower income-need ratios (the level of income vis-a-vis needs of the family adjusted for family size, as

is adopted by the PSID; largely equivalent to the ratio between income and the official poverty line).

'Table 1 about here'

Methods and Variables

A simple discrete-time event history approach (Allison, 1982) was used, first, to examine the hazard rate of retiring--defined here as working less than 375 hours per year, or at least 75% reduction from the annual work hours at T0--and to map the distribution of the timing of retirement over the study period by white and black men and women. In this analysis, retirement is viewed as a risk faced by each individual per unit of time, due to a host of retirement-inducing factors, for which that individual remains at risk. The adoption of this analytic framework makes it possible to analyze differences among groups--white men, black men, white women, and black women--not only in the risk of ever becoming retired but in the timing of the risk of being retired.

The definition of retirement has differed in many studies; some researchers defined it as complete withdrawal from the labor market, others chose reduction of work hours (usually down to 25% or less), and still others accepted the respondents' self-definition. The current study chose the work-hour definition, according to which those engaged in postretirement work for pay are considered working, while those who have reduced the number of hours of work (and most likely the amount of pay) without formally retiring are considered as de facto retired. Also, although retirement is a repeatable event with many retirees indeed reentering and reexiting the labor market, only the first event is considered in this analysis. Because we are interested in mapping the timing of retirement of those who have reasonably stable work histories (as shown in Table 1) and analyzing the variables influencing their retirement decision as well, the first of

such events is of special interest.

Second, because our purpose is also to examine factors associated with retirement, a logistic regression model is analyzed. To be more specific, the model specifies how the log odd of retirement among those at risk of retiring at a given time depends on explanatory variables. So, the number of cases entered in the model is equal to the number of person years or the cumulative number of sample members who still faced the risk of retirement at each successive study period, T1 through T7. If we denote the hazard of retirement by P(t), the probability that an individual will retire at time t, given that the individual is still at risk of retiring at the time, the logit model is written as follows:

$$\log (P(t)/(1-P(t)) = a + b_1X_1 + b_2X_2(t),$$

where which X_1 is a vector of time-constant explanatory variables, X_2 is a vector of time-varying explanatory variables, and b_1 and b_2 denote the change in the logit (log odds) for each one-unit change in X_1 and X_2.

Explanatory variables are divided into six categories--economic resources, health status, occupational characteristics, work history, work attitudes, and family context. Economic resources are indicated by hourly earnings, educational level, income-need ratio, and homeownership at T0. As for health status, the illness variable is quite differently operationalized than that in previous analysis. That is, by including work hours missed due to illness of family members, the variable includes not only the physical and mental health status of the sample member themselves but also their responsibilities to take care of family members. Given that the sample consists of household heads and that retirement is a process affected by family needs, it is quite possible that illness in the family drives its head to keep working, instead of to quit, for the following reasons. First, illness in the family certainly aggravates the economic needs of the household because of lost work time of an ill one as well as that of a caretaker.

Second, a greater incidence of illness in the family also indicates a greater need for health insurance, which is the most likely to be provided through the head's employment. Also, by adopting a quantitative and prospective measure of health status, this analysis intends to overcome the shortcomings of the self-reported and/or post-hoc measures of health, which have been often adopted in previous studies. Both illness and disability variables are set to be time-varying, because it is judged that their temporal changes are important for retirement decision.

'Table 2 about here'

The occupational characteristics category includes types of occupations, pension coverage, commuting mileage, and union membership. The commuting mileage is included because, especially in cities where most of the sample members are likely to work, it is often a primary source of daily work-related hassles which are likely to affect both the physical and mental health of an older worker. In previous studies, union membership was often entered as a proxy for a better retirement economic package available to workers. In this study, union membership is used as a proxy for better working condition as well as higher post-retirement income. Work history is represented by the length of time worked since age 18 and the annual hours of unemployment to account for the individual's history of labor force participation as well as macroeconomic structural influences. The work attitude variable is based on the annual interview question which probes whether the sample member would have preferred less work in the previous year even if s/he would have received less money. That is, those who answer the question affirmatively (only about 5-6% of all samples) are more likely to continue working, apparently against their desire for leisure. The relationship between the dependent variable and the work attitude variable, when the other variables are controlled, may help us understand

whether a desire for leisure is more important than obligation to work to support oneself and/or family in choosing retirement.

The family context category includes changes in marital status and the number of dependents. As mentioned, previous studies have shown that marital status changes, especially among women, can be a significant predictor of retirement. Also, the magnitude of the burden of supporting other family members is likely to be an important situational factor for retirement decision, because the higher the burden, the higher the economic needs, which may not prompt a decision to retire.

Findings

Timing of Retirement. As shown in Table 3 and Fig. 1, the estimated hazard rates of retirement of the four groups are quite different. (The larger the coefficient of the hazard rate, the higher the likelihood of retirement.) For white males, the hazard rate rose continuously, marking a minor peak at T4 (sample ages 62-63), but going down briefly at T5, to increase again at T6. It should be noted that T4 coincides with the eligibility for social security early retirement benefits. For black males, the minor peak was reached at T2 (sample ages 60-61), but the overall increment in hazard rates was much smoother than that for white males. In the case of white females, an almost monotonic and steady increase from T1 through T5 was followed by a sharp jump at T6 and T7. The most interesting pattern in the hazard rate change is found among black females. Unlike the other groups, black females showed two peaks, the first one at T2 and the second at T5, before they reached T7. Following this bimodal pattern, they also showed the highest hazard rate of all the groups at T7. Although the extreme scores for black females might be due to their small sample size, the bimodal pattern is yet quite interesting.

'Table 3 & Figure 1 about here'

Considering that a majority of these white and black women are single, including the widowed and the divorced, it is possible that some of them could have taken advantage of social security survivors' benefits payable at age 60 (which coincides with T2) and divorced wives' benefits or retired worker benefits payable at age 62. The high hazard rate of black women at T2 may indicate that some of them took advantage of early social security benefits when it became available. But the case of white women does not appear to be the same. With a sharp increase in retirement especially from T5 and on, however, both white and black women not only faced a higher likelihood of becoming retired at T7, but showed a lower cumulative proportion of surviving at T7. Before they reach age 65 or 66, a higher proportion of women than men retire.

Factors Associated with Retirement. For the logistic regression model, the dependent variable was set equal to 1, if the individual who had still faced the risk of being retired at a given study period actually became retired. If the individual did not retire, the dependent variable was set equal to 0. The log-odd coefficients of categorical explanatory variables--level of education, types of occupation, and marital status change--represent the comparative effect of each category to the average effect of all categories. The log-odd coefficients of dummy explanatory variables--homeownership, disability status, pension coverage, union membership, and work attitude (and work hours missed due to illness, in the case of females)--indicate the difference between the log odds when the case is a member of one category and when it is not. The log-odd coefficients of each explanatory variable can be easily converted to odds and probabilities by taking antilogs. But, because the logistic model is nonlinear in odds and probabilities, as

opposed to log odds, the size of the effect in terms of odds and probabilities depends on where it is measured.

The results of the logistic regression for white males show that the number of annual work hours missed due to illness of self and family members in the previous year, the presence of disability that limited the kind of work the sample members did, continuity of marriage, and work attitude are significantly associated with individuals' becoming retired. That people who are disabled are significantly more likely to retire is an expected finding. The finding that those who are continuously married are less likely to retire is also in congruence with the findings of previous studies, especially if their spouses are still working. Also, as hypothesized, the signs of the coefficients for work hours missed due to illness and work attitude are negative. That is, those who had a higher incidence of illness in the family (including self) are more likely to continue working, as are those who said they preferred to work less even for less money. Besides these four explanatory variables, neither the variables indicative of postretirement economic resources nor those related to occupation and work history were found to be significant.

'Table 4 about here'

For black males, the explanatory variables that are significantly associated with retirement are more varied than those for white males; 9 to 12 years of education, homeownership, health, disability status, type of occupation, commuting mileage, union membership, unemployment experience in the previous year, and pension coverage in service sector jobs. As compared to those with less than 9 years and those with 13 or more years, those with 9 to 12 years of education are more likely to retire. Homeowners are also more likely to retire than

nonhomeowners. Commuting mileage, union membership, and hours of unemployment in the previous year are also positively correlated with the likelihood of retirement. But those in professional, administrative, or managerial jobs are more likely to keep working than those in less prestigious, and most likely lower-paying, jobs. Pension coverage itself is not a significant predictor of retirement one way or the other, but the pension coverage in service-sector jobs was found to have a deterring, rather than inducing, effect on the decision to retire. As in the case of white males, black males who missed many work hours due to illness of self or family members in the previous year are also less likely to retire. As also in the case of white males, however, disability has the largest effect on the likelihood of retirement of black males.

Female workers' decision to retire appears to be influenced by a smaller number of variables than that of their male counterparts. That is, disability status, the dummy indicating whether or not one or more hours of work had been missed due to illness of self or family members, and single status are the only significant explanatory variables for white females, whereas the same dummy relating to illness and commuting mileage are the only variables found significant for black females. (The number of work hours missed annually due to illness as a continuous variable was not significant for either group of women.) For both white and black women, those who missed one or more hours of work due to illness of self or family members are less likely to retire than those who did not miss any work hours due to illness. An interesting difference between black and white females (and also white and black males) is the finding that the presence of disability does not appear to affect black females' likelihood of retirement. Such finding might be due to the small sample size, but, as found by an earlier research, it is also possible that economic needs may force these black women, who is worse economic off than white women, to keep working. Even in the case of white females, those who remained single are less likely to retire than those who did not, probably because of economic necessity and the

usually higher degree of attachment to work among singles than among marrieds.

Interestingly, the sign of the commuting mileage for black females is negative, indicating that those who commute a longer distance are less likely to retire than those who commute a shorter distance.

Discussion and Summary

The analysis of the timing of retirement presents a very interesting picture. First, the comparison between white and black males shows that the hazard rate of retirement for blacks up to ages 60-61 is higher than that for whites, but after that it is in general lower than that for whites. Apparently there exists a momentum for black male workers when those who want to or are forced to retire early actually retire before, on, or soon after they turned 60. But those who do not retire this early appear to maintain a fairly low level of exit from the labor market until they reach or pass age 65. On the other hand, the timing of white male retirement appears to be influenced, to a certain extent, by the availability of social security early retirement benefits. The retirement tide is noticeably high when they are 62-63 years old, and drops the following year, then keeps rising sharply thereafter.

Second, this analysis shows that a higher proportion of women than men retire by age 65-66. Whether these women would reenter the labor market later is beyond the scope of this paper. But as far as the cumulative proportion of those who retired is concerned, these women (who were single and thus not likely to be influenced by a husband's retirement) were more likely to retire than were men.

The finding that black women showed a higher hazard rate of retirement than white women at most observation periods is at odds with previous studies, which often sampled black women from upper occupational categories. But, considering that our sample consists entirely

of nonprofessional workers, it is possible that these black women chose to retire as early as possible, earlier than their white counterparts, simply because of the nature of their jobs. It is also possible that these nonprofessional workers were more likely to be forced to retire than professional workers due to many other factors beyond their control.

The separate logistic regression analyses of factors associated with the retirement of whites and blacks of both sexes show both similarities and differences among these four groups. The most marked similarity among the groups is the inverse association between their retirement and the incidence of illness of self or family members. With the exception of black females, however, the presence of disabling conditions of self is found to be positively associated with the likelihood of retirement. Thus health status is again confirmed to be the most significant as well as common predictor of retirement of black and white workers of both sexes. But the significant inverse relationship between the illness variable and retirement supports our hypothesis that family economic needs resulting from illness in the family is likely to exert a greater influence on retirement decision than the health status of the worker per se does. The findings thus indicate that the existing view of the poor health of the worker as the primary reason for retirement, as shown in most previous studies, may be too simplistic to explain the complexities surrounding retirement decision.

There are also quite noticeable differences among the four groups. For example, good jobs--professional, administrative, or managerial positions and clerical and service-sector jobs with pension coverage--apparently kept older black men at work, while unemployment in the previous year and long commuting distances kept them away from the world of work, either voluntarily or involuntarily. (In fact, those who experienced unemployment in the previous year might be still unemployed, but are regarded in this analysis as retired.) Black homeowners, owing probably to their somewhat better economic situation, also tend to retire earlier than black

renters.

But all these factors were unassociated with white male retirement. The insignificance of white males' level of earnings and types of occupation (even in the absence of the education variable) has been previously found by many studies, whereas the insignificance of pension coverage is contradictory to some previous findings. It is possible that the eligibility for social security benefits, as suggested by the timing of retirement, along with a pension rather than the availability of a pension alone might influence the decision to retire. Also, the pension variable for older cohorts is not so accurate as it should be, because the PSID collected information on occupational pensions only intermittently prior to 1984. The most interesting finding with respect to white males, however, is the relationship between their work attitude and retirement. The findings indicate that those who appear to be tired of working did not have any choice other than to work for possible reasons of economic urgency, family responsibility, or work-related requirements. In other words, some white male workers chose to retire as soon as they became eligible for social security early retirement benefits, while others had to continue working, regardless of social security eligibility, for reasons of immediate economic need.

As for the other racial differences common to both genders, the commuting mileage to work is a significant factor for blacks but not for whites. (The average commuting mileage of blacks was not significantly different from that of whites of both genders.) Black older male workers who travel a longer distance to work are more likely to retire. Why it affects black males more than white males is not clear, except that such a hassle is likely to aggravate the blacks' work situation, which is already worse than the whites' because of lower wages and often a less amenable work environment. Interestingly, however, in the case of older black females the commuting distance is inversely correlated with the incidence of retirement, thus suggesting that these women's needs to work and retire are different from those of the other group members.

It is possible that black female workers who live or work in suburbs and thus have a better economic and/or occupational standing may work longer than those who live and work in the city.

Overall, this analysis shows that, contrary to some previous findings, the retirement of black males is associated with a wider variety of factors than that of white males. It is true that blacks, in general, might have fewer options for retirement than whites (see Fillenbaum, George, & Palmore, 1985). Previous findings have also indicated that quite different factors affect middle-class black retirement than poor black retirement (Gibson, 1987). But, in general, blacks contain a lower degree of within-group differences in preretirement status than whites do. Although the gap between the black middle class and the black poor has been increasing (due to the increasing assimilation of the black middle class with the white middle class in contrast to the residualization of the black poor), the homogeneity within blacks in their income and occupational status is still greater than that within whites. For example, as shown in Table 1, unlike the white male sample almost 60% of the black male samples are concentrated in clerical/sales/service jobs. This higher level of homogeneity within the black samples may well be the source of the inflated statistical association between variables.

In the same context, the smaller number of statistically significant factors affecting both white and black women than those affecting men of both races may indicate that the determinants of women's retirement tend to be more varied across different economic statuses, occupations, and so forth.

In conclusion, this study differs from earlier studies of retirement behavior in the following aspects. First, it utilized event-history approach for a prospective analysis of determinants of retirement using longitudinal panel data. Second, in its multivariate analysis, this study simultaneously controlled for variables which represent characteristics of both individual workers

and their families. The findings also differ from those of earlier studies in that, for a majority of workers, it appears that the retirement decision is not based just on the individual worker's health status, his/her preference of leisure to work, and/or availability of social security or pension benefits. On the average, it is more likely that those older workers who work past age 58-59 do so because they have to, whereas those who retire do so because they are physically unable to work or to find a job. The black and white comparison also indicates that this is more so among blacks than whites. In the case of many black females, even the presence of disability did not stop them from working. Put differently, economic urgency, possibly stemming from these elderly household heads' responsibility to support family members and/or themselves, is a force driving many of them to work regardless of their desire to retire. For these people, the decision to retire is thus more likely to be influenced by exigencies of later life that affect the family's economic situation, such as health status of self as well as that of family members and availability of work, than by the mere availability of social security or pension benefits and a desire for leisure. Future research on retirement should focus more on the familial context of retirement than on the individual worker's characteristics.

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Table 1. Sample Characteristics at T0 on Selected Variables

Variable	Male		Female	
	White	Black	White	Black
(N)	298	110	79	41
Level of education (%)				
0-8th grade	27.5	57.8***	24.5	45.3
9th-12th grade	32.0	18.9***	36.6	46.5
13th grade or higher	40.6	23.2***	39.9	8.2
Type of occupation (%)[a]				
Prof/admin/manag.	35.1	21.2***	24.4	.6*
Clerk/sales/service	27.6	58.2***	39.9	81.4*
Laborer or other	37.3	20.5***	35.7	17.9*
Work history (yrs)	39.62	39.72	31.09	33.07
Hourly earnings ($)[b]	14.24	10.38**	8.79	5.88**
Income-need ratio[c]	4.51	2.85***	3.38	1.78**
Homeownership (%)	89.4	80.9	62.2	57.2
Union memebership (%)	23.0	22.7	12.7	10.1
Marital status (%)				
Married	92.7	86.7	5.3	3.5
Single	7.3	13.3	94.7	96.5

a. Based on nonmissing cases only for females. The type of occupation is missing for 1.0% of white females and 1.9% of black females.

b. In 1987 dollars.

c. The income-need ratio adjusted for family size: the need baseline is similar to the official poverty line.

* $p < .10$; ** $p < .05$; *** $p < .01$; these denote significant diferences between whites and blacks.

Table 2. Description of Explanatory Variables

Variable	Time dependency	Description
Economic resources		
Hourly earnings at T0	Time constant	in 1987 dollars
Educational level at T0	Time constant	1: 0-8th grade 2: 9th-12th grade 3: 13th grade or higher
Income-need ratio at T0	Time constant	based on family income
Homeownership at T0	Time constant	0: Does not own; 1: own
Health status		
Annual work hours missed due to illness in the year prior to each observation year (Dummy for females)	Time varying	Of self and family members (0: 0 hours missed; 1: 1+ hours missed)
Presence of disability at each observation year	Time varying	Of self; 0: no; 1: yes
Occupational characteristics		
Occupation at T0	Time constant	1: Professional/managerial/ administrative; 2: Clerk/sales/service; 3: laborer or other
Pension coverage at T0	Time constant	0: Not covered; 1: covered (for those who do not have the coverage information, pension received after retirement was adopted: 0: less than $100 a year in 1987 dollars; 1: $100 or more)
Commuting mileage in the year prior to each observation year	Time varying	Each way to work
Union membership at T0	Time constant	0: Other; 1: yes
Work history		
Length of time worked since age 18 at T0	Time constant	In years
Annual amount of time unemployed in the year prior to each observation year	Time varying	In hours
Work attitude		
Work attitude in the year prior to each observation year	Time varying	Stated, "would have preferred to work less even if less money"; 0: other; 1: yes

Family context		
Marital status change between the previous year and each observation year	*Time varying*	*1: Remained married;* *2: Remained single;* *3: Other*
Number of dependents in the year prior to each observation year	*Time varying*	*As reported in the tax return form*

Table 3. Racial Differences in the Estimated Hazard Rates of Retirement

	Number at risk		Number retired		Proportion terminating		Proportion surviving		Cum. prop. surviving		Hazard rate (SE)	
	White	Black	White	Black	White	Black	White	Black	White	Black	White	Black
Males												
T1	298	110	13	7	.044	.062	.956	.938	.956	.938	.045 (.012)	.064 (.024)
T2	285	103	30	15	.104	.149	.896	.851	.857	.799	.109 (.020)	.161 (.041)
T3	255	87	30	9	.117	.103	.883	.897	.756	.716	.125 (.023)	.109 (.036)
T4	225	78	40	8	.178	.103	.822	.897	.621	.642	.196 (.031)	.109 (.038)
T5	184	70	22	10	.121	.150	.879	.850	.546	.546	.129 (.027)	.162 (.050)
T6	161	59	43	10	.264	.171	.736	.829	.402	.453	.304 (.046)	.187 (.058)
T7	118	49	40	9	.337	.177	.663	.823	.267	.373	.405 (.063)	.194 (.066)
Total	1,526	556	218	68								
Females												
T1	79	41	3	0	.038	.006	.962	.994	.962	.994	.039 (.022)	.006 (.012)
T2	75	40	8	10	.102	.256	.898	.744	.864	.740	.107 (.039)	.293 (.090)
T3	67	30	7	2	.099	.078	.901	.922	.778	.682	.104 (.041)	.081 (.053)
T4	59	27	9	1	.144	.029	.856	.971	.666	.662	.155 (.053)	.029 (.033)
T5	50	26	9	8	.168	.312	.832	.688	.555	.456	.183 (.063)	.369 (.128)
T6	42	17	12	1	.283	.090	.717	.910	.398	.415	.330 (.095)	.094 (.075)
T7	30	16	13	13	.425	.803	.575	.197	.229	.082	.539 (.146)	1.343 (.280)
Total	402	197	61	35								

Figure 1: Racial Differences in the Estimated Hazard Rates of Retirement

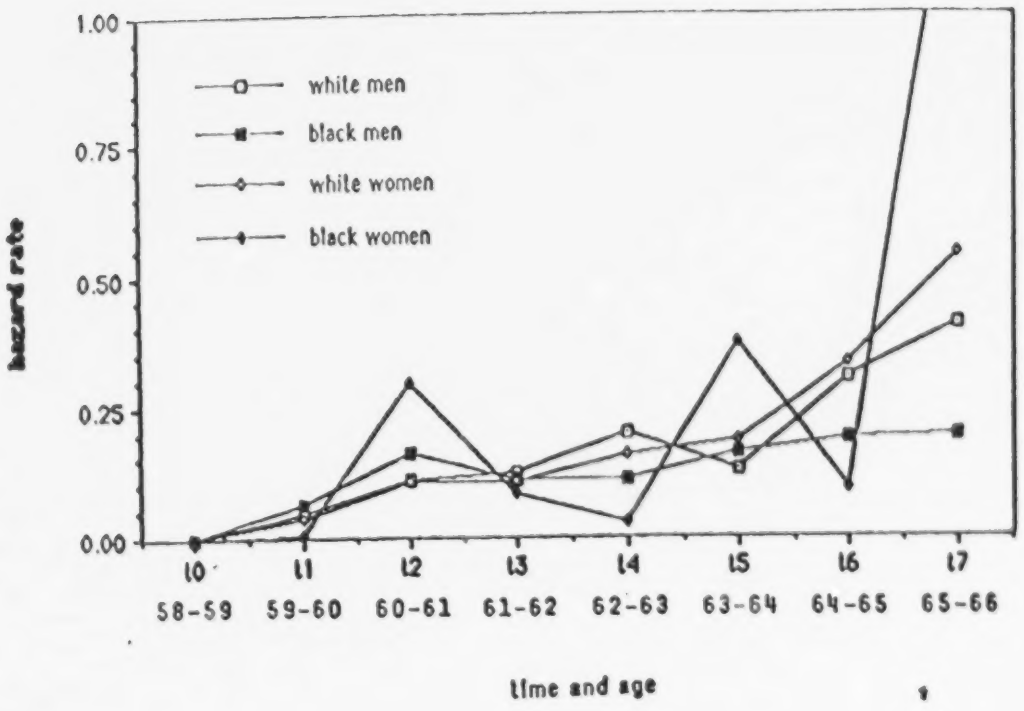

Table 4. Racial Differences in Factors Associated with Retirement: Weighted ML logistic Regression Coefficients

	Male				Female			
	White		Black		White		Black	
Variable	Beta (SE)	R	Beta (SE)	R	Beta (SE)	R	Beta (SE)	R
Constant	-.001 (.897)		-7.272*** (2.076)		.032 (1.471)		-.913 (2.502)	
Economic resources								
Hourly earnings	.007 (.013)	.000	.049 (.037)	.000	.093 (.067)	.000	.144 (.251)	.000
Level of education								
0-8th grade	.204 (.127)	.022	.541 (.426)	.000	.338 (.320)	.000	.993 (.683)	.026
9th-12th grade	-.020 (.113)	.000	.738* (.390)	.064	-.131 (.242)	.000	.445 (.589)	.000
Income-need ratio	.002 (.024)	.000	.066 (.110)	.000	.050 (.067)	.000	.171 (.365)	.000
Homeownership	-.168 (.243)	.000	.937* (.497)	.064	.175 (.377)	.000	-.276 (.809)	.000
Health status								
Work hours missed due to illness[a]	-.001** (.001)	-.043	-.002** (.001)	-.074	-1.423*** (.370)	-.198	-3.266*** (.948)	-.241
Disability status	.867*** (.187)	.127	1.876*** (.425)	.213	1.812*** (.469)	.199	.615 (.690)	.000
Occupational characteristics								
Occupation[b]								
Prof/admin/manag.	-.180 (.164)	.000	-2.897** (1.397)	-.078	.181 (.308)	.000		
Clerk/sales/ service	-.013 (.172)	.000	1.523* (.800)	.065	-.220 (.279)	.000	-.080 (.879)	.000
Pension coverage	.043 (.173)	.000	1.328 (.839)	.036	-.484 (.391)	.000	-1.174 (.914)	.000
Occupation by pension coverage								
covered in prof/ admin/manag.	.338 (.226)	.014	2.158 (1.497)	.014				
covered in clerk/ sales/service	-.279 (.243)	.000	-1.553* (.875)	-.055				
Commuting mileage	-.008 (.009)	.000	.036** (.016)	.090	-.007 (.020)	.000	-.141**	-.111
Union membership	-.151 (.196)	.000	.871* (.508)	.049	.098 (.524)	.000	1.522 (1.291)	.000
Work history								
Total length of work history	-.028 (.001)	.000	.052 (.042)	.000	-.009 (.016)	.000	.006 (.033)	.000
Annual hours of unemployment	9.7E-05 (.001)	.000	.002*** (.001)	.137	.001 (.001)	.000	.004 (.004)	.000

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Work attitude								
Would have preferred less work	-2.638*** (1.018)	-.062	-5.315 (16.832)	.000	.126 (.837)	.000	-6.299 (17.096)	.000
Family context								
Marital status change								
Remain married	.348* (.179)	-.038	-.573 (.354)	-.040	1.209 (.864)	.000	1.808 (1.566)	.000
Remain single	.012 (.259)	.000	.562 (.448)	.000	-1.010* (.518)	-.075	-.657 (1.120)	.000
No. of dependents	-.184 (.122)	-.015	-.114 (.127)	.000	-1.091 (.719)	-.031	-.328 (.413)	.000
-2log L.R.								
Model Chi-square (df)	60.46(20)		87.13(20)		41.37(18)		37.75(17)	
p<	.0001		.0001		.0014		.0027	

a. Dummy for females; 1: 1 or more hours missed; 0: 0 hours missed.
b. Dummy for black females: 1: clerk/sales/service; 0: laborer or other. (No black woman had a professional, administrative, or managerial position.)
* p <.10; ** p <.05; *** p <.01

Appendix 1. Cohort / Follow-up Time Information

	Time							
	T0	T1	T2	T3	T4	T5	T6	T7
Cohort 1	1968	1969	1970	1971	1972	1973	1974	1975
Cohort 2	70	71	72	73	74	75	76	77
Cohort 3	72	73	74	75	76	77	78	79
Cohort 4	74	75	76	77	78	79	80	81
Cohort 5	76	77	78	79	80	81	82	83
Cohort 6	78	79	80	81	82	83	84	85
Cohort 7	80	81	82	83	84	85	86	87
Age	58-59	59-60	60-61	61-62	62-63	63-64	64-65	65-66